

**EXPERT TESTIMONY-RAMÓN CAO**

**Introductory Questions**

**Q. State your name.**

Ramón Cao García

**Q. State your business mailing address.**

Urb. Cupey Gardens, C-11 Calle 3, San Juan, PR 00926-7306.

**Q. State your educational background.**

Ph.D. in economics from Virginia Polytechnic Institute & State University, Blacksburg, VA.

**Q. Describe your professional experience and qualifications.**

I am a retired professor from the University of Puerto Rico, Río Piedras Campus [UPR-RP], where

I taught economics, statistics and econometrics. I am author, coauthor or editor of 11 books in economics and statistics and author or coauthor of over 50 academic articles published in journals with peer review. At UPR-RP, in addition of teaching, I also served as Director of the Economic Research Unit. Chairman of the Department of Economics, Associated Dean of Academic Affairs in the College of Social Sciences.

I also worked as consultant for UNDP of the UN, and has been consultant of numerous government and private organizations in Puerto Rico and private enterprises in Puerto Rico.

In 2019 I was retained by the Customers' Representative to PREPA Board of Directors to do two economic and financial expert reports about expected consequences of PREPA's RSA; one on macroeconomic consequences of the RSA on the Puerto Rican economy and another on expected effects of that RSA and the financial sustainability of PREPA.

**Q. State whether you have previously testified or presented before the Title III Court and list the occasions.**

I prepared the expert reports of the RSA indicated in the answer to previous question.

25 **Q. State on whose behalf you are testifying before the Title III Court.**

26 I am testifying on behalf of ICSE.

27 **Q. List the documents you considered for your testimony.**

28 Among other secondary resources and relevant news articles, as cited herein, I reviewed:

29 A. Plan of Adjustment and all associated schedules.

30 B. Disclosure Statement and all associated exhibits.

31 C. 2023 Commonwealth Certified Fiscal Plan.

32 D. 2022 PREPA Certified Fiscal Plan and all prior PREPA Certified Fiscal Plans.

33 E. PREPA Monthly Reports to the Governing Board.

34 F. LUMA's budgeted and actual operating expenditures as reported to PEB.

35 G. PREPA's Grid Modernization Plan.

36 H. PREPA's approved Integrated Resource Plan.

37 I. PREB's docket in CEPR-AP-2015-0001 on PREPA rates.

38 J. Puerto Rico Planning Board, Proyecciones Económicas a Largo Plazo, Años Fiscales 2021  
39 al 2031.

40 K. Puerto Rico Planning Board, Apéndice Estadístico al Informe Económico al Gobernador y  
41 la Legislatura, 2021.

42 L. Federal Reserve Bank of Saint Louis, Federal Reserve Economic Data (FRED)

43 M. U.S. Energy Information Administration, <http://www.eia.gov/state/?sid=RQ>

44 **Q. Describe the purpose of your direct testimony.**

45 The purpose of my testimony is to show that the proposed Plan of Adjustment is not feasible,  
46 because it (a) is based on faulty and unreasonable economic assumptions and projections, (b) is  
47 not consistent with the Fiscal Plan of PREPA, (c) does not provide for investments required for the

needed modernization of the electric grid, and (d) results in electricity tariff fees that are unaffordable to the economy and are going to result further restraining its ability to perform and create needed income, investment and employment.

**I. The Plan of Adjustment is not supported by reasonable projections.<sup>1</sup>**

**Q. Is the Plan of Adjustment supported by reasonable financial projections?**

Both the PREPA 2022 Certified Fiscal Plan (Fiscal Plan) and the supporting documentation (specifically Exhibit P, “Legacy Charge Derivation”) of the Disclosure Statement<sup>2</sup> are the documents supporting the feasibility of the Financial Oversight and Management Board for Puerto Rico (FOMB) proposed new Plan of Adjustment is feasible, but projections in both documents are based on assumption that are inconsistent with historic statistical data:

1. Population projections used in PREPA Fiscal Plan of 2022 are significantly higher than those reported in the previous one. No justification is provided to justify such forecast modification. This change in projection tends to overestimate demand forecasts for electricity and, in consequence, to underestimate required electricity tariff rates increases required to finance debt service required, as well as the financing of the pension fund.
2. Long term demand for electricity is also overestimated, because price elasticity cannot be assumed constant over such a long-term period; particularly because customers have the choice of installing solar energy generating systems on their premises, at a time when there is a trend to price decrease for these systems, as well as government subsidies.

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<sup>1</sup> All references to “Plan of Adjustment” in this testimony refer to the *Modified Second Amended Title III Plan of Adjustment of The Puerto Rico Electric Power Authority* filed at Case No. 17-04780-LTS, ECF 3296, the exhibits and other materials attached to the Plan of Adjustment, and any and all amendments which were available at the date of this testimony.

<sup>2</sup> All references to the “Disclosure Statement” refer to the *Disclosure Statement For Modified Second Amended Title III Plan Of Adjustment Of The Puerto Rico Electric Power Authority* filed at Case No. 17-04780-LTS, ECF 3297, the exhibits and other materials attached to the Disclosure Statement, and any and all amendments which were available at the date of this testimony.

3. Long term projections of real GNP growth are overly optimistic. Since FY2007 Puerto Rico has a structural economic contraction, and recent GNP growth has been caused by increases in federal transfers, to compensate for damages caused by natural phenomena.

4. FOMB projections of oil and natural gas prices are inconsistent with long-term behavior of these variables. This underestimates PREPA operation costs and, in consequence, electricity tariff rates required. As these rates increase, quantity demanded declines, and further increases in tariff rates are required to cover for debt service.

**Q. What is the consequence of including these unrealistic assumptions in the Fiscal Plan?**

These assumption results in underestimating expenses and, in consequence, required electricity tariff rates, putting in jeopardy the ability of PREPA to have sufficient funds to pay for the debt service of the legacy debt. It should be also noted that the FOMB has made no study or evaluation of macroeconomic consequences of its proposal to restructure PREPA's legacy debt. Our estimates that the implementation of this proposal tends to result in a reduction of Puerto Rico real GNP of \$155.0 million or 2.70% in FY2024 and \$472.4 million or 8.59% in 2020, which tends to cause reduction in employment of 25,010 in FY2024 and 79,472 in FY2030.

**Q. Even given these unrealistic assumptions, do the Legacy Debt levels in the Plan of Adjustment comport with the Debt Sustainability Analysis contained in the Fiscal Plan?**

The Debt Sustainability Analysis in the Fiscal Plan establishes a range of debt levels from \$2.44 billion to \$5.61 billion.<sup>3</sup> The actual debt level identified in the Plan of Adjustment is \$5.68 billion for Legacy Debt and \$2.425 billion for capital expenditures not included in the Fiscal Plan, for a total of \$8.11 billion in new debt that would be emitted over the Plan of Adjustment period. This

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<sup>3</sup> See Table 15 of PREPA's 2022 Certified Fiscal Plan. We also note that the Debt Sustainability Analysis does not actually arrive at any conclusion about whether these levels of debt are economically sustainability or fiscally viable for PREPA.

is significantly higher than the range presented in the Debt Sustainability Analysis. In consequence, the Debt Sustainability Analysis in the Fiscal provides no information about the ability that PREPA would have to pay for its debt, if it is restructured as proposed.

**Q. Does the proposed Plan of Adjustment provide adequate funds for PREPA's investment requirements.**

Plan of Adjustment includes \$5.68 billion for Legacy Debt and \$2.425 billion for capital expenditures not included in the Fiscal Plan. But PREPA produced a Grid Modernization Plan with a total cost of \$20.3 billion over the next 10 years in October 2019.<sup>4</sup> That Plan was going to be financed with 14 billion from the federal government transfers and the other \$6 billion should come from debt financing.<sup>5</sup> That amount is much higher than the \$2.425 billion for capital expenditures considered in the Plan of Adjustment.

**Q. Please summarize the conclusions of your testimony.**

My testimony stated that:

1. The Plan of Adjustment is not supported by reasonable economic projections. Assumption and projections in this Plan of Adjustment results in underestimating expenses and, in consequence, required electricity tariff rates, putting in jeopardy the ability of PREPA to have sufficient funds to pay for the debt service of the legacy debt and provide for the financing of investments to modernize the electric grid, which are required for the provision of a reliable electric service. Thus, the Plan of Adjustment is not feasible.
2. The Plan of Adjustment and PREPA Fiscal Plan does not consider the macroeconomic consequences of electricity rate increases. Rate increases proposed in the plan will tend to result in reductions in real GNP and employment.

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<sup>4</sup> Autoridad de Energía Eléctrica. [The Grid Modernization of Puerto Rico](#).

<sup>5</sup> PREPA's 2022 Certified Fiscal Plan at 86, Table 5 and explanation.

3. An economic contraction resulting from implementing the Plan of Adjustment is going to put in jeopardy the capacity of PREPA to have sufficient funds to pay for the debt service of the legacy debt.

4. The Plan of Adjustment does provide for PREPA to have adequate fund to finance required investments to modernize the electric grid, in order to provide a reliable service and stop being a constrain to the ability of the economy to perform efficiently. Thus, the Plan of Adjustment is not feasible.

**I declare under penalty of perjury pursuant to the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.**

Dated: April 28, 2023.



Ramón J. Cao García